MANAGEMENT NEEDS OF MAFMC ECO-GIS

PRESENTED AT GIS TOOLS SUPPORTING ECOSYSTEM APPROACHES TO MANAGEMENT

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MAFMC FMPs

- Surfclam and Ocean Quahog (1977)
- Atlantic Mackerel, Squid, Butterfish (1978)
- Summer Flounder (1988), Scup (1996), Black Sea Bass (1996)
- Bluefish (1990)
- Dogfish (1999)
- Tilefish (2001)

FISHERY ECOSYSTEM PLAN -- OR CUMULATIVE IMPACTS

- Target Fishery and Resources
- Non-Target Fisheries or Bycatch
- Habitat
- Protected Resources
- Communities -- Socioeconomics

Surfclam and Ocean Quahog

- Not overfished and overfishing not occurring
- Gear – 100% clam dredges
- Minimal and Temporary Gear Impacts
- Minimal Bycatch
- Long-lived (200+ years)
- Inshore/southern end of range may be impacted by global warming
- Larval settlement dependent on density, predators, environmental and oceanographic

Atlantic Mackerel, *Loligo*, *Illex*, and Butterfish

- Not overfished and overfishing is not occurring
- Gear – Bottom and Mid-water Trawls
- Bycatch issues in *Loligo*/Butterfish for scup
- Marine Mammal issues in all 4 fisheries
- Prey for MM, HMS, most fishes, and themselves
- Squid annual species and recruitment likely highly dependent on environmental factors

Summer Flounder, Scup, and Black Sea Bass

- None Overfished
- Overfishing occurring with SF, and unknown on other two species
- Gear – SF (95% BT), Scup (75% BT, 10% traps), BSB (45% traps, 40% BT, 10% H)
- SF has HAPC which are SAV beds
- All three are commercial and recreational fisheries
- Limited encounters with MM and ES

Bluefish

- Overfished but overfishing is not occurring
- Gear – Gill net 50%, Bottom Trawl 20%
- EFH and Social Impacts disapproved
- Recreational (80%) vs. commercial (20%)
- Significant biomass decline during last decade, belief competition with striped bass

Dogfish

- Overfished but overfishing is not occurring
- Gear – GN 75%, BT 15%, H&L 10%
- Largest biomass in Northeast, but declining
- Bycatch only fishery now
- Problems – few adult females, practically no recruitment for last 7 years, pup survival of small females very low

Tilefish

- Overfished and overfishing occurring
- Gear – longline 95%, bottom trawl 5%
- 10 year rebuilding plan with constant quota
- Structure oriented species
- HAPC but no gear restrictions
- New assessment 2005, Industry wants ITQs

Current FMP Goals
Rebuild Tilefish – OY Obtained

- Prevent overfishing and rebuild to biomass that supports MSY
- Prevent overcapitalization and limit new entrants
- Identify and describe essential tilefish habitat
- Collect necessary data to develop, monitor, and assess biological, economic, and social impacts of management measures

Five Pillars for Ecosystem Plan Target Fishery and Resources

- Survey abundance and distribution over time
- Commercial catch & effort by gear over time
- Recreational catch & effort over time
- Biological data, especially food habits
- Oceanographic – water temp, DO, productivity, distribution of plankton over time

Non-Target of Bycatch

- Survey abundance and distribution over time
- Commercial catch & effort by gear over time
- Recreational catch & effort over time
- Biological data, especially food habits
- Oceanographic – water temp, DO, productivity, distribution of plankton over time
- VTR data needs corroboration and therefore need more observers

Habitat

- Bottom sediments
- Marine Sanctuaries, existing MPAs. Closed areas, artificial reefs
- HAPCs, SAV beds
- Survey and commercial hang downs
- Survey Distributions of all species for all life stages by time
- Other anthropogenic impacts
- Critical to have State survey data for resource distribution

Protected Resources

- Species distribution and migrations over time for marine mammals, turtles, birds and endangered or threatened fishes
- Maps of endangered species critical habitat
- Maps of encounters with other human activities, i.e., ship strikes

Socioeconomics

- Coastal development
- Coastal fishing communities
- Ports
- Other anthropogenic impacts – power plants, beach replenishments, nutrient loadings, coastal wetlands losses, fish tissue contaminations, beach closures, etc.

SUMMARY

- Single species management has worked for MAFMC because it has been quota based and limited access in overcapitalized fisheries
- Recognize that fishery management goals based on more than MSFMCA
- Recognize process needs to be more evolutionary than revolutionary
- Envision using GIS tool like time lapse photography
- Concern always of paralysis by analysis